

CLAIMS

What is claimed is:

- 1 1. A circuit board module, comprising:
2 a circuit board that includes a processor and memory; and
3 a connector panel that provides access to connectors that are connected to the
4 circuit board, wherein the connector panel and the circuit board are connected
5 together so as to form a single, integrated unit that can be installed in a computer.
- 1 2. The module of claim 1, wherein the connectors are mounted to the
2 circuit board.
- 1 3. The module of claim 1, wherein the circuit board further comprises
2 openings that are adapted to receive fasteners that are used to secure the circuit board
3 to a computer chassis.
- 1 4. The module of claim 1, wherein the circuit board is a computer
2 motherboard.
- 1 5. The module of claim 1, wherein the connector panel comprises
2 openings with which the connectors are aligned or extend through.
- 1 6. The module of claim 1, wherein at least one connector is attached to
2 the connector panel.

1 7. The module of claim 6, wherein the at least one connector is also
2 mounted to the circuit board so as to securely connect the connector panel to the
3 circuit board.

1 8. The module of claim 1, wherein the connector panel comprises
2 connection elements that are configured to connect the panel to a computer chassis.

1 9. The module of claim 8, wherein the connection elements include tabs
2 that are configured for receipt by slots of a computer chassis.

1 10. A motherboard module separate from a computer, the module
2 comprising:

3 a computer motherboard that includes a processor and memory, the
4 motherboard having input/output connectors mounted adjacent a rear edge of the
5 motherboard; and

6 a connector panel having openings that are configured to receive the
7 input/output connectors mounted to the motherboard so as to provide access to the
8 connectors to a computer user, the connector panel further comprising connection
9 elements that are configured to connect the panel to a computer chassis;

10 wherein the motherboard and the connector panel are connected together so as
11 to form a single, integrated unit in which the rear edge of the motherboard aligns with
12 the connector panel and the motherboard extends normal from the connector panel.

1 11. The module of claim 10, wherein the motherboard further comprises
2 openings that are adapted to receive fasteners that are used to secure the motherboard
3 to a computer chassis.

1 12. The module of claim 10, wherein at least one connector mounted to the
2 motherboard is also attached to the connector panel to securely connect the connector
3 panel to the motherboard.

1 13. The module of claim 10, wherein the connection elements include tabs
2 that are configured for receipt by slots of a computer chassis.

1 14. A computer, comprising:
2 an outer housing;
3 a chassis mounted within the outer housing; and
4 a pre-assembled motherboard module that includes a motherboard that is
5 mounted within the chassis and a connector panel that is accessible from the exterior
6 of the computer, the motherboard and the connector panel being connected together to
7 form a single, integrated unit, the motherboard including a processor, memory, and
8 input/output connectors, the connector panel providing access to the motherboard
9 connectors.

1 15. The computer of claim 14, wherein the connectors are mounted to the
2 motherboard.

1 16. The computer of claim 14, wherein the circuit board further comprises
2 openings that are adapted to receive fasteners that are used to secure the circuit board
3 to the chassis.

1 17. The computer of claim 14, wherein at least one connector is attached to
2 the connector panel.

1 18. The computer of claim 17, wherein the at least one connector is also
2 mounted to the motherboard so as to securely connect the connector panel to the
3 motherboard.

1 19. The computer of claim 14, wherein the connector panel and the chassis
2 comprise connection elements that are configured to connect the panel to the
3 computer chassis.

1 20. The computer of claim 18, wherein the connection elements include
2 tabs on one of the connector panel and the chassis and slots on the other of the
3 connector panel and the chassis.

1 21. A method of manufacturing a computer, the method comprising:
2 pre-assembling a motherboard module comprising a motherboard and an
3 integral connector panel; and
4 installing the motherboard module as a single unit in a computer chassis.

1 22. The method of claim 21, wherein pre-assembling a motherboard
2 module comprises mounting the connector panel to the motherboard by securing a
3 connector that is mounted to the motherboard to the connector panel.

1 23. The method of claim 21, wherein installing the motherboard module
2 comprises inserting the motherboard module into the computer chassis without
3 angling the module as it is inserted.

1 24. The method of claim 21, wherein installing the motherboard module
2 comprises attaching the connector panel of the motherboard module to the computer
3 chassis using tabs provided on one of the connector panel and the chassis.

1 25. The method of claim 24, wherein installing the motherboard module
2 further comprises securing the motherboard to the chassis with threaded fasteners.